

## REMARKS

Claims 1-15 have been finally rejected under 35 USC 103. The bases for this rejection and the Examiner's response to Applicants' argument have been carefully considered, however, reconsideration of the rejection in light of the following remarks, and submission of a declaration of one skilled in this art, is respectfully requested. A general discussion of the claimed invention, the technical problem addressed by the invention and its advantages over the prior art, were previously submitted in Applicants' "Reply and Amendment A", and argued in further detail in the "Reply and Amendment B".

The drawings have been objected to as well as claim 12. These objections have been addressed.

A. Objection to the Drawings under 37 CFR 1.83(a)

The Examiner has required depiction of the claimed subject matter of claim 15, by illustrating a scooter (and its transmission). While Applicant is not claiming the scooter or the transmission per se, new Figs. 13 and 14 are submitted herewith to comply with the requirement. No new matter is introduced. These drawings, in addition to following the subject matter of the application, depict a public domain illustration of a scooter and scooter transmission published as a product leaflet in 1992 relating to Applicant's PowerLink scooter belts offered at that time. If the Examiner would like a copy of the 1992 product leaflet, Applicant will be happy to supply it.

B. Objection to Claim 12 under 35 CFR 1.75

The objection to claim 12 as being a substantial duplicate of claim 1 has been met by cancellation of claim 12.

C. Rejection of Claims 1-7 and 9-14 under 35 USC 103(a)

The rejection of claims 1-7 and 9-14 under 35 USC 103(a) as being obvious over Ito '226, in view of Kumazaki et al '143 is respectfully traversed.

In Applicants' Reply and Amendment "B" it was argued that the Office had not made out the requisite *prima facie* case of obviousness under 35 USC 103 or, if the *prima facie* case was established, it was rebutted. Applicants will not burden the Examiner by restating the arguments already of record. However, Applicants will address in this response the unexpected results represented by Applicants' combination of relatively short aramid fibers, with relatively longer polyester fibers, in its claimed power transmission belt.

In paragraph 12 of the Office Action the Examiner has invited Applicants to submit any necessary affidavit or declaration containing evidence of what was expected to happen by modifying the lengths of the fibers of the claimed combination, and also addressing whether the results are truly unexpected. Applicants have done so, by submitting herewith the Declaration of Paul N. Dunlap, under 37 CFR 1.132. It is urged that the Declaration has been timely submitted and complies with 37 CFR 1.116, as it responds to the Examiner's invitation, and addresses the critical issues regarding whether the results set forth in the specification are indeed surprising, or unexpected, and what in fact one skilled in the art would have expected.

The declarant Dr. Dunlap, who holds a Ph. D. degree in Chemical Engineering from California Institute of Technology, has 17 years of industry experience, including about 14 years as a power transmission belt development and materials research engineer, and has a number of technical publications, patents and patent applications to his credit, has at least "ordinary" skill in the belt art. This experience includes specifically fiber loaded composites used in various types of automotive and industrial belts (paragraph 4, Dunlap Declaration).

Dr. Dunlap concludes that the results overall graphically depicted in Figs. 3 and 4 are "unexpected" (Declaration, paragraph 6); that Comparative example 2 (10 parts 3 mm long aramid fibers, blended with 10 parts 3 mm long polyester fibers) would have been expected to have the highest [tensile] strength (Declaration, paragraph 10); that the observed ranking of Examples E, F, C and A in relation to Comparative examples 1 and 2 was "quite unexpected" (Declaration, paragraph 10); that in comparison to Comparative example 2 shortening the length of the aramid fibers from 3 mm to 1 mm or 2 mm (Examples A & F) the tensile strength increased contrary to his expectation (Declaration, paragraph 11); and that the blends of 1 mm aramid and 3 mm polyester fibers performed significantly better than a similar blend of just 3 mm fibers was, in his opinion, another example of "an unexpected and unpredictable result in rubber composite science". Dr.

Dunlap supports his analysis and opinion with excerpts from treatises and texts on short-fiber reinforced rubber composites ("SFRR") and theoretical models.

It is submitted that the foregoing evidence does show unexpected results, and superiority of a property (tensile strength of the composite) that amounts to evidence of nonobviousness under MPEP § 716.02(a). Indeed, when Example A is compared to Comparative examples 1 and 2, the increased tensile strength suggests evidence of a possible synergistic effect. It is submitted that the *prima facie* case of obviousness has been rebutted.

D. Rejection of Claim 8 under 35 USC 103(a)

The rejection of claim 8 under 35 USC 103(a) as being unpatentable over Ito '226 in view of Kumazaki et al '143 and further in view of Kodama '520, is respectfully traversed.

All of the arguments made above regarding the rebuttal of the *prima facie* case apply to this rejection as well, and are incorporated herein. It is submitted that there is nothing in Kodama '520 that makes up for the basic deficiency in the rejection of claim 1, to which claim 8 is dependent.

E. Rejection of Claim 15 under 35 USC 103(a)

The rejection of claim 15 under 35 USC 103(a) as being unpatentable over Ito '226 in view of Kumazaki '143 further in view of Kinoshita (US 6,132,328) is respectfully traversed.

Claim 15 is dependent upon claim 14 and is directed to the commercially adopted scooter belt, which is discussed in the Example section of the specification from middle of page 15 through page 19, and demonstrates significant improved results over the conventional fiber loaded scooter belt. Arguments concerning patentability have already been proffered in Applicants' Reply and Amendment "B". Furthermore, Applicants rely on the Declaration of Paul N. Dunlap to rebut the *prima facie* case of obviousness under 35 USC 103.


In addition, claim 15 recites use of an organic metal salt in admixture with EPDM rubber stock for the belt. The Examiner relies on Kinoshita '328 to supply this teaching, however it is submitted that Kinoshita '328 only suggests use of a metal salt with a hydrogenated nitrile rubber, not EPDM (col. 3, lines 23-43). Therefore, obviousness has not been established.

F. Information Disclosure Statement

Applicant also includes form PTO-A820 together with copies of the foreign patent documents.

Favorable reconsideration of this application in light of the evidence and submissions made herein is respectfully solicited. If the Examiner feels it would advance the prosecution of the case, he may call the undersigned to discuss.

Respectfully submitted,

  
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Enclosures:

Declaration of Dr. Paul N. Dunlap  
Replacement Drawing 13/13  
PTO Form-A820 with 2 references